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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,385	12/10/2001	Teddy M. Keller	N.C. 82,591	8261
26384	7590	05/05/2004	EXAMINER	
NAVAL RESEARCH LABORATORY ASSOCIATE COUNSEL (PATENTS) CODE 1008.2 4555 OVERLOOK AVENUE, S.W. WASHINGTON, DC 20375-5320			CHOI, LING SIU	
			ART UNIT	PAPER NUMBER
			1713	
DATE MAILED: 05/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,385

Applicant(s)KELLER ET AL. **Examiner**

Ling-Siu Choi

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 11-16 is/are allowed.
- 6) ☐ Claim(s) 1-10, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/07/02 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 1-18 are now pending, wherein claims 1-10 are drawn to a composition; claims 11-16 a method to form the composition; claims 17-18 a composition made by the method.

Claim Objections

2. Claims 2-10 are objected to because of the following informalities: (a) claims 2-10, line 1, "The mixture" is suggested to be changed to --The composition--, (b) claim 1, line 9, "1,2,4-tris(phenylethynyl)" is suggested to be changed to --1,2,4-tris(phenylethynyl) benzene--, (c) claim 1, line 5 and 8, "composition" is suggested to be changed to --component--, and (c) claim 17, line 10 and 12, "Rx" and "Ry" are suggested to be suggested to be changed to --R_x-- and --R_y-- respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-10 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ting et al. (US 5,389,400).

The present invention relates to a composition comprising

iron nanoparticles		
mixture formed ≥ 300°C	ferrocenylethynyl containing component	1,4-bis(ferrocenyl)butadiyne, 1-ferrocenylethynyl-4-(phenylethynyl)benzene, 1,3-bis(ferrocenylethynyl)benzene
	aromatic-acetylene containing component	1,2,4,5-tetrakis(phenylethynyl) benzene, 1,2,4-tris(phenylethynyl) benzene, 1,3,5-tris(phenylethynyl)benzene
wherein the iron nanoparticles homogeneously dispersed throughout the mixture		

(summary of claim 1)

Ting et al. disclose a carbon/carbon composite obtained by the steps comprising (a) producing vapor grown carbon fibers by the pyrolysis of a hydrocarbon gas in the presence of a small particles of **iron having diameters less than 10 nm**, which are spread on a substrate as a catalyst for fiber growth at 900°C under a mixture of methane and hydrogen, (b) forming a preform from the resulting carbon fiber, (c) carbonizing the preform at 900°C over a three day period, and then (d) carbonizing the carbonized preform at 2800°C prior to densification (Example 1). Thus, the resulting carbon/carbon composite comprises iron. It is noted that Ting et al. are silent on the use of the specific compounds to make the claimed composition which is the carbon-carbon composite as disclosed by Ting et al.. However, the present claims are product-by-process claims. The case law holds that "[E]ven though product-by-process claims

are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the **claim is unpatentable even though the prior product was made by a different process**" (emphasis added). *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Thus, the present claims are anticipated by the disclosure of Ting et al. (US 5,389,400).

Allowable Subject Matter

5. This application contains allowable subject matter (claims 11-16) because the prior art of record [Ting et al. (US 5,389,400)], either alone or in combination, fails to teach or suggest the use of the particularly claimed process to form the composition containing iron nanoparticles which are homogeneously dispersed throughout.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.

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April 27, 2004